

Work Order ID 163983

Monday, July 10, 2017 12:56:05 PM

163983

Page 1

Item ID: D412-630-032 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear
 Start Date: 7/27/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 8/4/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: W Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3462	REV C								
IIN D412-630	O								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy D412-630 bluefile & type labels per PPP412-630-032 CHG004								
110	Small Fab	0.00							
110	Small Fab								
Small Fab	Memo	0.26							
Small Fab	Assemble as per IIN D412-630								

****ensure tension to retract step is 11 to 18 lbs before installing lockwire.****
 A/R MS20995C41 batch: 131371

DAS
6
JUL 27 2017

DAS
27
9-89
AUG 08 2017

DAS
36
9-89
17/07/31

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																													
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Root Cause</th> <th colspan="3" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="4" rowspan="2" style="text-align: center; vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </tbody> </table>						Root Cause			FAULT CATEGORY			Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				Misidentified ☐	Past Due ☐
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo ****ensure tension to retract step is 11 to 18 lbs **** Test fit on aircraft in Eng. lab. ENSURE STEP IS A RH: _____	0.00 0.02				1			DAS 38 AUG 01 2017
130 *130* Packaging Packaging	Pick Kit Memo	0.00 0.00							AUG 02 2017  DAS 6 9-89
140 *140* QC Quality Control	QC4- 100% Inspect kits for completeness Memo VERIFY ORIENTATION OF D3462/D3463: _____	0.00 0.03							DAS 27 9-89 AUG 08 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Work Order ID 163983

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163983

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Revision ID: Stop ***NS2***
Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear
Start Date: 7/27/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/4/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: _____	0.00							
150	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-630-032 ENSURE STEP IS A RH: _____ Location: FG034								
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.10							
Quality Control									

DAS
27
9-89
AUG 08 2017

17/8/10 DJ

AUG 08 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
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OTHER : _____					

Picklist Print

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Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV. A 05.11.21 NEW ISSUE EC
 IPP REV. B 05.12.19 updated pick list EC
 IPP REV. C 07.11.12 ecn 1019, nochg EC verified by: DD IPP Rev: D
 10.05.28 added route seq DD verf: EC IPP Rev: E 11.06.01
 removed qty1 an310-4 EC verified by: DD IPP REV: F 16.06.23 AS PER
 IIN REV. O DD VERF: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN310-4 *AN310-4* Nut		Purchased	No			110	Each	93.0000	1	1	DAS 6 9-89		
				<u>Location</u>				<u>Loc Qty</u>					
				GA				25					
				M127815				25					
				ST331				68					
				M137361				18					
				<u>M137735</u>				50					
AN310-7 *AN310-7* Nut		Purchased	No			110	Each	14.0000	1	1	DAS 6 9-89		
				<u>Location</u>				<u>Loc Qty</u>					
				ST331				14					
				<u>m120124</u>				14					
AN4C14 *AN4C14* Bolt		Purchased	No			110	Each	19.0000	1	1	DAS 6 9-89		
				<u>Location</u>				<u>Loc Qty</u>					
				OVER002				15					
				m137710				15					
				ST344				4					
				<u>m135704</u>				4					

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Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
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Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

AN4CH3 Purchased No

110 Each

16.0000

2

2

AN4CH3

Bolt

**

DAS
6 JUL 27 2017
9-89

Location

Loc Qty

Loc Code

ST346

16

M135665

16

2

D3443-041

Manufactured No

110 Each

3.0000

1

1

D3443-041

Strut Weldment Assembly

**

DAS
6 JUL 27 2017
9-89

Location

Loc Qty

Loc Code

ST525

3

160643

3

1

D3443-043

Manufactured No

110 Each

7.0000

1

1

D3443-043

Strut Weldment Assembly

**

DAS
6 JUL 27 2017
9-89

Location

Loc Qty

Loc Code

ST525

7

160581

3

162394

4

1

D3443-9

Manufactured No

110 Each

13.0000

2

2

D3443-9

Pin

**

DAS
6 JUL 27 2017
9-89

Location

Loc Qty

Loc Code

ST035

13

149322

13

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

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Page 3

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

D3454-7

Manufactured No

110 Each

28.0000

2 2

DAS

D3454-7

**

6

Bushing

9-89

JUL 27 2017

Location

Loc Qty

Loc Code

ST036

28

149466

28

D3455-1

Manufactured No

110 Each

87.0000

2 2

DAS

D3455-1

**

6

Spacer

9-89

JUL 27 2017

Location

Loc Qty

Loc Code

ST036

87

149364

87

D3463-042

Manufactured No

110 Each

1.0000

1 1

DAS

D3463-042

**

6

Step Weldment Assembly

9-89

JUL 27 2017

Location

Loc Qty

Loc Code

ST386

1

144282

1

D3465-1

Manufactured No

110 Each

48.0000

1 1

DAS

D3465-1

**

6

Washer

9-89

JUL 27 2017

Location

Loc Qty

Loc Code

ST037

48

149356

48

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																			
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Picklist Print

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Page 4

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

MS24665-227

Purchased

No

110

Each

81.0000

1

**

MS24665-227

Cotter Pin

DAS
6
9-89

JUL 27 2017

Location

Loc Qty

Loc Code

GA

16

111041

16

ST289

65

m135671

65

MS24665-302

Purchased

No

110

Each

53.0000

1

**

MS24665-302

Cotter Pin

DAS
6
9-89

JUL 27 2017

Location

Loc Qty

Loc Code

ST288

53

m135672

53

AN310-4

Purchased

No

130

Each

93.0000

1

**

AN310-4

Nut

DAS
6
9-89

Location

Loc Qty

Loc Code

GA

25

M127815

25

ST331

68

M137361

18

M137735

50

AN310-5

Purchased

No

130

Each

73.0000

2

**

AN310-5

Nut

DAS
6
9-89

Location

Loc Qty

Loc Code

ST331

73

m135672

23

m137736

50

DAS
27
9-89

DAS
27
9-89

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Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
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Root Cause		FAULT CATEGORY																							
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								OTHER :																	

Picklist Print

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Page 5

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

AN3C5A
AN3C5A
Bolt

Purchased No

130 Each

1,386.000

3 3

**

AUG 02 2017

Location Loc Qty Loc Code

FG 5

122800 5

FP001 515

M137361 515

OVER002 800

M137710 200

M137963 600

ST350 66

M135442 66

130 Each

10.0000

**

AUG 02 2017

AN44-C12
AN44-C12
Eye Bolt

Purchased No

Location Loc Qty Loc Code

FG 3

124829 3

ST339 7

M135885 7

130 Each

42.0000

**

AUG 02 2017

AN4C15
AN4C15
Bolt

Purchased No

Location Loc Qty Loc Code

OVER002 25

M137736 25

ST343 17

M137506 17

130 Each

42.0000

**

AUG 02 2017

Monday, July 10, 2017 12:56:03 PM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Date: 01/06/06		Step #:		QTY Effective :			MRB (QSI042) Approval																																																								
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OTHER : ☐																																																															

Picklist Print

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Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

AN5C11
AN5C11
BOLT

Purchased No

130 Each

13.0000

1
**

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

ST338

13

M135722

13

AN5C15
AN5C15
BOLT

Purchased No

130 Each

6.0000

1
**

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

ST337

6

M135704

6

D3454-1
D3454-1
Bushing

Manufactured No

130 Each

12.0000

1
**

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

12

149447

2

156302

10

D3454-3
D3454-3
Bushing

Manufactured No

130 Each

16.0000

2
**

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

16

149416

16

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: 4/2/00 Date:

Work Order update only

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS								
Part No. _____		Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐	
		Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐	
NCR No. _____		Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐	
Suspected Unapproved		☐		Large Fab	☐	Composite	☐	Supplier	☐			
Date: 08-09-2014	Step #: _____	QTY Effective : _____							MRB (QS1042) Approval			
Description Work Order Deviation				Disposition								
TUS 1000A TUS 1000A TUS 1000A											Completed By	
											Lead hand / Supervisor Approval Verification	
											QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY								
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐	
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐	
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐	
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐	
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐	
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐	
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐	
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐	
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐	
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐	
Past Expiry Date	☐	Manufacturing Process	☐									
Misidentified	☐	Past Due	☐	OTHER :								

Picklist Print

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Page 7

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

D3454-5 Manufactured No 130 Each 13.0000

D3454-5

Bushing

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

13

149326

13

**

2

DAS
6
9-89

AUG 02 2017

D3455-1 Manufactured No 130 Each 87.0000

D3455-1

Spacer

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

87

149364

87

**

4

DAS
6
9-89

AUG 02 2017

D3455-3 Manufactured No 130 Each 20.0000

D3455-3

Spacer

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

20

149459

20

**

2

DAS
36
9-89

17/07/31

D3462-042 Manufactured No 130 Each 1.0000

D3462-042

Bracket Assembly

DAS
27
9-89

Location

Loc Qty

Loc Code

ST036

1

146512

1

**

1

DAS
6
9-89

AUG 02 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date: _____		Step #: _____		QTY Effective : _____				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition				Completed By			
100% DQA								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐						
OTHER : _____											

Picklist Print

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Page 8

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

D3672-5

Manufactured No

130

Each

619.0000

**

1

D3672-5

Washer, Phenolic

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

8

44679

8

ST047

111

50354

111

ST051A

500

153354

500

261

MS21043-3

Purchased

No

130

Each

590.0000

**

3

3

MS21043-3

Nut

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

119

m136182

119

GA

84

m136182

84

ST302

307

m137459

7

m137587

300

3

MS24665-227

Purchased

No

130

Each

81.0000

**

2

2

MS24665-227

Cotter Pin

DAS
6
9-89

AUG 02 2017

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

16

111041

16

ST289

65

m135671

65

2

Monday, July 10, 2017 12:56:03 PM

Shop Packet Print

Page 8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date : 10/15/2004		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
Description Work Order Deviation				Disposition				Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	

Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			OTHER : ☐																	

Picklist Print

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Page 9

Work Order ID: 163983

163983

Parent Item: D412-630-032

D412-630-032

Parent Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017

Required Date: 8/4/2017

Start Qty: 1.00

Required Qty: 1.00

MS24665-229

Purchased

No

130

Each

165.0000

2 2

AUG 02 2017

MS24665-229

Cotter Pin

DAS
27
9-89

Location

Loc Qty

Loc Code

GA

2

118234

2

ST289

163

m135671

163

130

Each

332.0000

7 7

DAS
6
9-89

AUG 02 2017

NAS1149C0363R

Purchased

No

NAS1149C0363R

Washer

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001

100

m133077

100

GA

16

m133077

16

ST260a

200

m137495

200

ST266

16

m136983

16

130

Each

268.0000

1 1

DAS
6
9-89

AUG 02 2017

NAS1149C0563R

Purchased

No

NAS1149C0563R

Washer

DAS
27
9-89

Location

Loc Qty

Loc Code

ST265

268

m131697

168

m137853

100

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition			Completed By																		
							Lead hand / Supervisor Approval Verification																		
							QC / QA Coordinator Approval																		
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____																			

163983

Work Order ID 163983

Monday, July 10, 2017 12:56:05 PM

Item ID: D412-630-032

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Revision ID:

Item Name: Pilot/Co-Pilot Folding Step RH - Low, High & Float Gear

Start Date: 7/27/2017 Start Qty: 1.00 ***1***

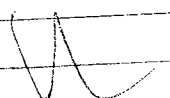
Required Date: 8/4/2017 Req'd Qty: 1.00 ***1***

Cust Item ID:

Customer:

Reference:

Run Start ***NR1***
Stop ***NR2***

Approvals: Process Plan:  Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

QC: _____		Date: _____	SPC (I/N): _____	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours							
Draw Nbr	Revision Nbr		JUL 27 2017							
D3462	REV C									
IIN D412-630	O									
100	Document Control DOCUMENT CONTROL		0.00	DAS 5 9-89						
100 DC Doc.Control -USB or Paperwork			0.00	JUL 31 2017						
Memo Photocopy D412-630 bluefile & type labels per PPP412-630-032 CHG004										
110	Small Fab		0.00							
110 Small Fab Small Fab			0.26							
Memo Assemble as per IIN D412-630 ****ensure tension to retract step is 11 to 18 lbs before installing lockwire.**** A/R MS20995C41 batch: _____										

JUL 27 2017

DAS
5
9-89

JUL 31 2017



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ontario
Canada K6A 1K7

Number: SH96-69**Issue No.:** 7**Approval Date:** May 29, 1996**Issue Date:** December 22, 2005**Responsible Office:**

Ontario

Aircraft/Engine Type or Model:BELL 205A, 205A-1, 205B, 212, 214B, 214B-1, 412, 412 CF,
412 EP**Canadian Type Certificate or Equivalent:**BELL 205A, 205A-1 H1SW
BELL 205B H-104
BELL 214B, 214B-1 H-80
BELL 212, 412, 412 CF, 412 EP H-86**Description of Type Design Change:**

Heli-Access-Step

**Installation/Operating Data,
Required Equipment and Limitations:**

Manufacture of the Heli-Access-Step must be done in accordance with Dart Aerospace Ltd. Master Document List, MDL-412-630, Revision B, approved Dec 15, 2005, or later approved revisions.

Installation of the Heli-Access-Step must be done in accordance with Dart Aerospace Ltd. Installation Instruction D412-630, Revision J, approved Dec 08, 2005, or later approved revisions.

Maintenance of the Heli-Access-Step must be done in accordance with Dart Aerospace Ltd. Instructions for Continued Airworthiness, ICA-D412-630, Revision 1, Transport Canada accepted Dec 22 2005, or later Transport Canada accepted revisions.

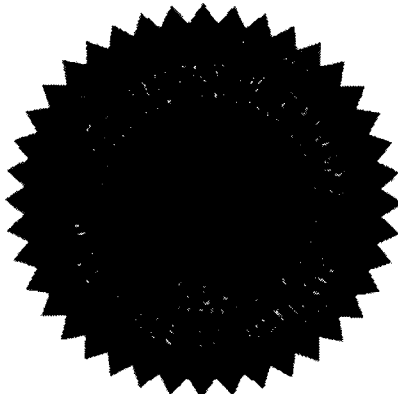
Operations with the Heli-Access-Step installed must be in accordance with Dart Aerospace Ltd. Flight Manual Supplement FMS-D412-630, Revision D, Transport Canada approved Dec 22 2005, or later Transport Canada approved revisions.

Basis of Certification:

The basis of certification for this modification was FAR 29, up to and including Amendment 29-47

-- End --

Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.




M.G. Mariotti
For Minister of Transport

Qty -031	Qty -032	Part Number	Description
X		D412-630-031	PILOT/CO-PILOT STEP, LH (FOLDING)
	X	D412-630-032	PILOT/CO-PILOT STEP, RH (FOLDING)
1	1	D3443-041	STRUT ASSEMBLY
1	1	D3443-043	STRUT ASSEMBLY
2	2	D3443-9	PIN
1	1	D3454-1	BUSHING
2	2	D3454-3	BUSHING
2	2	D3454-5	BUSHING
2	2	D3454-7	BUSHING
6	6	D3455-1	SPACER
2	2	D3455-3	SPACER
1	1	D3462-041	BRACKET ASSEMBLY
	1	D3462-042	BRACKET ASSEMBLY
1		D3463-041	STEP ASSEMBLY
	1	D3463-042	STEP ASSEMBLY
1	1	D3465-1	WASHER
1	1	D3672-5	WASHER (OR NAS1515H5)
2	2	AN310-4	NUT
2	2	AN310-5	NUT
1	1	AN310-7	NUT
2	2	AN3C5A	BOLT
1	1	AN3C6A	BOLT
1	1	AN44-C12	* EYEBOLT
1	1	AN4C14	BOLT
1	1	AN4C15	BOLT
2	2	AN4CH3	BOLT
1	1	AN5C11	BOLT
1	1	AN5C15	BOLT
7	7	NAS1149C0363R	WASHER (OR AN960C10)
1	1	NAS1149C0563R	WASHER (OR AN960C516)
3	3	MS21043-3	NUT
2	2	MS24665-227	COTTER PIN
2	2	MS24665-229	COTTER PIN
1	1	MS24665-302	COTTER PIN

* USE AN44-C12 EYEBOLT WHEN D412-630-031/-032 IS INSTALLED IN CONJUNCTION WITH D412-630-023/-024/-033/-034™ HELI-ACCESS-STEP.
SEE FIGURE 13B (D412-630-023/-024 KITS) OR FIGURE 16B (D412-630-033/-034 KITS).